

REMARKS

This is a full and timely response to the above-identified, non-final Office Action. Reexamination and reconsideration of the application in light of the following remarks are requested.

Claims 1 through 16 were originally filed in the instant application. Pursuant to a restriction requirement and a subsequent election, claims 12 through 16 have been withdrawn from consideration. Claims 1 through 11 remain pending and under consideration and of these claims, claims 1 and 10 are the independent claims. No claims have been cancelled, added or amended. Claims 1, 3 to 5, 7, 10 and 11 were rejected under 35 U.S.C. 102 and claims 2, 6, 8 and 9 were rejected under 35 U.S.C. 103.

The Rejection of Claims 1, 3 through 5, 7, 10 and 11 Under 35 U.S.C. 102

Claims 1, 3 through 5, 7, 10 and 11 were rejected under 35 U.S.C. 102(e) as being anticipated by Nemoto. This rejection is respectfully traversed.

With respect to the rejection of claim 1 (and 7), one of the two independent claims, the Examiner, in referring to Nemoto, recites a number of elements including first,

second and third (emphasis mine) clad layers. As to the third clad layer specifically, the Examiner refers to Fig. 12, character 37. Additionally, the Abstract, column 13, lines 49 to 59, column 14, lines 35 to 41, and column 15, lines 1 to 61 are noted as lending support to the Examiner's position relating to the presence of a third clad layer. The Applicant's attorney has carefully reviewed those sections of Nemoto recited immediately above and, with all due respect, cannot agree with the Examiner.

The Abstract, as well as columns 13, 14, and 15, refer to laser diodes with only two clad layers. The structures discussed actually concern two laser diodes, each of which has two, not three, clad layers. The first set of clad layers are elements 32 and 34. The second set of clad layers are elements 37 and 39. Of more interest is the Examiner's assertion that Fig. 12, element 37, depicts a third clad layer formed at an upper layer of the second clad layer. Unfortunately, the Examiner failed to make clear whether Fig. 12A or Fig. 12B was intended. Consequently, both figures will be discussed.

At this point it is important that the Examiner recognize some facts relating the law and the limitations set forth in claim 1. (Claim 10, the other independent claim under rejection, presents the same issues as

discussed herein.) The Examiner's rejection is under 35 U.S.C. 102 which requires that every claimed limitation must be found in the applied reference. Claim 1 recites a laser diode that functions in a certain manner with applied voltage as well as a number of recited elements. Included are a contact layer formed at the upper layer of the third clad layer, and an electrode formed connecting to the second clad layer.

Fig. 12A does not depict a laser diode or a device of any kind. Rather, it is a doped semiconductor wafer as it exists during a method of making a laser diode. The third clad layer, element 37, in cross-section, zig-zags both above and below the second clad layer, element 34. There is no contact layer or electrode. Fig. 12B, like Fig. 12A, is not a laser diode or a device but is a semiconductor wafer as it exists somewhat later in the process and, like Fig. 12A, there is no contact layer or electrode. However, unlike Fig. 12A, there is no third (or fourth) clad layer. There are only what will become two laser diodes with two clad layers each; elements 32, 34 and 37, 39. Thus, the limitation that recites the presence of a third clad layer formed at an upper layer of a second clad layer cannot be met by the structure depicted in Fig. 12B, or, for that matter, in the structures depicted in Fig. 14, Figs. 15A or

15B, or Fig. 17. (Fig. 17 may show electrodes.)

Accordingly, the Examiner's rejection of claim 1 (and claim 7), the independent claim, is not considered to be well founded.

Because the rejection of claim 1 is deemed to be flawed, a discussion of the rejections of the dependent claims is believed to be unwarranted. It is noted that in the latter part of these rejections the Examiner refers to figures (e.g., Fig. 26) not relied upon in the basic rejection of claim 1 and perhaps the Examiner is relying on the showing of certain elements not only depicted in Fig. 12 but other elements in Fig. 26. Fig. 12 and Fig. 26 are, without question, show very different structures. Using elements from one structure and elements from another are clearly improper absent some teaching that this contemplated by the reference. In any event, this rejection, at the very least, needs to be clarified.

It is suggested that the Examiner withdraw the rejection (and the rejection of the dependent claims) and select the best figure (only one) for the purposes of a rejection. Normally, the dependent claims would be discussed. However, the rejection is so confusing and flawed that such a discussion is deemed to be a useless exercise at this point.

In any event, this rejection is untenable and should be withdrawn.

The Rejection of Claims 2, 6 and 8 through 9 Under 35

U.S.C. 103

Claims 2, 6 and 8 through 9 were rejected under 35 U.S.C. 103 as being unpatentable over Nemoto in view of Uchida. This rejection is also respectfully traversed.

With respect to claims 2 and 6, the Examiner opines that Nemoto discloses the claimed invention except for a saturable absorption region and an etching stop layer between the second and third clad layers which are deemed to be taught by Uchida according to the Examiner. The Examiner continues by asserting that it would be obvious to combine these teachings of Uchida with certain other structure. Thought not stated by the Examiner, it appears that the certain other structure is that depicted in Nemoto.

The Examiner's argument relating to the obviousness of the combination of the references is indeed rather strange. The following are some of the flaws as seen by the Applicant's attorney.

(1) For one thing, the Examiner, while apparently referring to Nemoto, does not mention what Nemoto figure is

being referred to in the rejection. The Applicant's discussion relating to the rejections under 35 U.S.C. 102 are deemed to be applicable here and the Examiner is reminded that these rejected claims are all dependent directly upon claim 1.

(2) The Examiner proposes a combination of Nemoto and Uchida. A combination of references is only proper where there is a teaching or suggestion of the combination in the references themselves or at least a motivation for an artisan in the art to make the combination. The Applicant's attorney cannot find a teaching or suggestion in the references and does not know of any motivation recognized under the patent laws. It is suggested that the Examiner not find such a motivation by finding, in turn, that the teachings of the secondary reference would improve a device disclosed in the primary reference. This is an argument that can only be advanced through prohibited hindsight. If a motivation argument is advanced in the future, it would be greatly appreciated if the Examiner would include the basis of the argument by citing supporting case law or the like. It is axiomatic that if a combination is not proper, it is irrelevant what the combination would teach.

(3) The rejection of claims 2 and 6, in terms of its essential elements is this. The Examiner states that Nemoto shows everything claimed except for the saturable absorption region and the etching stop layer (not stated, but presumably the Examiner is referring to Uchida). The Examiner then states that it would be obvious to combine the teachings of the references based upon the Examiner's recitations of the known functions of absorption region and the stop layer. Obviousness is a conclusion that requires support. The required support is not furnished by simply reciting the functions of some elements. It is requested that the Examiner present a logical argument as to why it would be obvious to combine the Uchida elements with the Nemoto structure (identify which Nemoto structure) as well as where the elements would be incorporated into the Nemoto structure. This should be accomplished without employing hindsight.

Claims 8 and 9 are both directly dependent upon claim 1. Claim 8 adds the limitation that the thickness of the third clad layer is in the range of 0.1 to 0.7 um while claim 9 adds the limitation that the width of the current injection stripe region is in the range of 1.5 to 5 um. These ranges are clearly not disclosed by Nemoto and the Examiner acknowledges this fact. The Examiner continues by

stating that it would be obvious to combine Nemoto with Uchida to obviate these claims because Uchida discloses these ranges and further, because In re Aller holds that where the general conditions of a claim are prior art discovering optimum or working ranges involves only routine skill in the art. A number of questions or issues are raised by this rejection.

1. Where are these ranges disclosed in Uchida?
2. What is the basis of the combination? (Discussed above)
3. The Examiner's view of the holding of the Aller case is so broad that one could start with a claim that recites one kind of device and, by "discovering" various ranges, layers can be varied in dimensions and doping type and amounts and wind up with a completely different device. The different device can be made to meet certain claims, as was done here, with hindsight. Employing this case, as stated, appears to be going back to the "flash of genius" test of fifty years ago. The fact is that most inventions are made by rather routine experimentation.

While the Examiner's stated unwarranted, overly broad view of the Aller case is of concern, there is another factor which is of much greater concern. The statement of the holding of that case is incomplete and selective as it

does not state the portions of the holding that would be unfavorable to the Examiner's position. The Aller case relates to chemical practice which is very different than that which applies to electrical and mechanical cases. The court simply held that, in general, differences in temperature or concentration will not support patentability. The case is so limited and is irrelevant with respect to the instant claims.

4. The Examiner employs Nemoto as the primary reference in this rejection. Would the Examiner kindly identify which figure of Nemoto is being relied upon? (It may be helpful to review the discussion of the rejection of claim 1 under 35 U.S.C. 102)

This rejection cannot be maintained and should be withdrawn.

Conclusion

Based upon the foregoing remarks and the rejections as far as they can be understood, Applicant submits that the claims are allowable over the cited references. The dependent claims are also allowable for at least the reasons given above with respect to the independent claims and because they recite features which are patentable in their own right. Individual consideration of the dependent claims is requested.

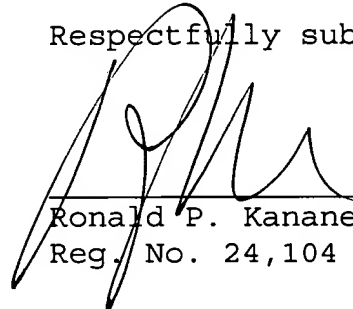
Because all claims herein are believed to be allowable, the early passage to issue of the instant application is respectfully solicited.

The Applicant appreciates the acknowledgement of the claim of foreign priority and the receipt of priority documents in support of that claim.

In the event that the Examiner has any comments or suggestions which could place this application in even

better form, the Examiner is invited to telephone the undersigned attorney at the below-listed number.

Respectfully submitted,



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